ENVIRONMENTAL ASSESSMENT

for

The Proposed I-75 Corridor Improvements From South of the I-675 Bridge to South of the US-10/M-25 Interchange in Saginaw and Bay Counties, Michigan

PREPARED
by the

MICHIGAN DEPARTMENT OF TRANSPORTATION
in Cooperation with the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

2/8/07
Date

David Calabrese
for the Federal Highway Administration

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PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires that the social, economic, and natural environmental impacts of any proposed action of the federal government be analyzed for decision-making and public information purposes. There are three classes of action. Class I Actions, which are those that may significantly affect the environment, require the preparation of an Environmental Impact Statement (EIS). Class II Actions (categorical exclusions) are those that do not individually or cumulatively have a significant effect on the environment and do not require the preparation of an EIS or an Environmental Assessment (EA). Class III Actions are those for which the significance of impacts is not clearly established. Class III Actions require the preparation of an EA to determine the significance of impacts and the appropriate environmental document to be prepared - either an EIS or a Finding of No Significant Impact (FONSI).

This document is an Environmental Assessment for the proposed reconstruction and widening of I-75, from south of the I-675 bridge over I-75 located in Saginaw County to South of the US-10 and M-25 Interchange located in Bay County. The EA describes and analyzes one construction alternative, and the measures taken to minimize harm to the project area. It will be distributed to the public and to various federal, state, and local agencies for review and comment. An opportunity for a public hearing on this document will be advertised in local papers. If review and comment by the public and interested agencies support the determination of "no significant impact", this EA will be forwarded to the Federal Highway Administration (FHWA) with a recommendation that a FONSI be prepared. If it is determined that the preferred alternative will have significant impacts that cannot be mitigated, the preparation of an EIS will be required.

This document was prepared by the Project Planning Division of the Michigan Department of Transportation (MDOT), in cooperation with the FHWA and other members of the I-75 project study team. The study team includes representatives from the following divisions within the Michigan Department of Transportation: Project Planning, Hydraulics, Real Estate, Construction and Technology, Traffic and Safety, Bay City Transportation Service Center, and the Bay Region Office. Information contained in this document was also furnished by other federal and state agencies, local units of government, public interest groups, and individual citizens.

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Should any other species occurring in the proposed action area become federally listed or proposed for Federal listing, the Federal action agency will be required to reevaluate its responsibilities under the Act. Since threatened and endangered species data changes continuously, we recommend you contact this office for an updated federal list of the species that may be present in the project area every six months during the remaining planning and building period.

The MDNR also protects listed species through Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994, PA 451. Please contact Todd Hogrefe of the MDNR at (517) 373-3337 with questions concerning the protection of threatened and endangered species under State law.

Fish and Wildlife Coordination Act Comments

The proposed work may require a Michigan Department of Environmental Quality permit for which our office will have review responsibilities. In the review of these permit applications, we may concur (with or without stipulations) or object to permit issuance depending upon whether specific construction practices may impact public trust fish and wildlife resources of concern. In an effort to better understand potential fish and wildlife impacts, we suggest your environmental assessment include an ecological evaluation of any and all waterbodies or wetlands that may be affected by the proposed project. We appreciate the opportunity to review the document. Please refer any questions directly to Jack Dingledine of this office at (517) 351-6320 or the above address.

Sincerely,

Acting for Craig A. Czarnecki
Field Supervisor

cc: Todd Hogrefe, MDNR, Wildllife Division, Lansing, MI

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SECTION 1
PROPOSED PROJECT

1.1 DESCRIPTION OF AND NEED FOR THE PROPOSED PROJECT

Proposed Project Area
The project area is along the I-75 freeway from south of the I-675 bridge (north of the Zilwaukee Bridge) over I-75 located in Saginaw County to south of the US-10/M-25 interchange located in Bay County. Refer to **Figure 1.1** for an overview of the project area.

Proposed Project Description
This Environmental Assessment (EA) describes the reconstruction and geometric improvements proposed by the Michigan Department of Transportation (MDOT) along I-75 from south of the I-675 bridge over I-75 to south of the US-10/M-25 Interchange. This segment of I-75 also includes an interchange at M-84 in Bay County; however, all work will be within the existing right-of-way foot print of this interchange.

The existing I-75 project segment is approximately 6.8 miles in length and consists of a six lane freeway that crosses Kochville Drain, Goetz/Davis drains, Ziegler Drain, and Squaconning Creek located south of the M-84 interchange and Dutch Creek located north of the M-84 interchange. There are structures over I-75 at Crane Road in Saginaw County, M-84, Amelith, Hotchkiss, and Salzburg roads in Bay County. In general the proposed project is to reconstruct the freeway and widen it from 6 to 8 lanes. The scope of work for this project also includes reconstructing the M-84 ramps, and resurfacing the parking area at the I-75 southbound rest area located south of M-84.

Within the project limits, I-75 serves multiple functions. It is part of the primary route for tourism in Michigan. Nearly 50 percent of all weekend north-south tourist traffic traveling Michigan's freeways travels I-75. Some of that weekend traffic departs from I-75 at the US-10 interchange or at the US-23 interchange in southern Arenac County. During the week, I-75 serves as a commuter route through Saginaw and Bay Counties.

The average daily traffic (ADT) within this corridor is 56,930 vehicles. Six percent of this traffic is comprised of commercial vehicles. Future traffic volumes projected for the years 2010 and 2030 show an increase in traffic. For the year 2010, the ADT is 59,875 vehicles; while the ADT for the year 2030 is 79,700 vehicles.

The MDOT uses a Level of Service (LOS) classification system to define the quality of driving on a road in terms of time, safety, cost and comfort. LOS ranges from level A to level F with LOS "A" being free flow with low volumes and high speeds and LOS "F" being unacceptable congestion, long delays and severely impeded traffic flow. LOS "C" is considered mostly free flow, while LOS "E" is considered congested. For this project LOS "C" has been selected for the design year.

The base year 2010 directional design hour volume is 4,275 vehicles per hour, with 4% trucks and 4% recreational vehicles. Under these conditions, the existing three-lane cross section has a traffic density of 25.3 vehicles per lane mile and functions at Level of Service "C".

By 2030, the directional volume during the design hour is forecast to reach 5,700 vehicles per hour. With a three-lane cross section, this volume creates a traffic density of 40.2 vehicles per lane mile, resulting in a LOS "E." Adding a fourth lane to I-75 reduces the traffic density to 25.1 vehicles per lane mile, improving performance to an acceptable LOS "C."

Purpose of the Proposed Project

The purpose of the project is to rehabilitate the condition of the I-75 corridor, and enhance mobility and safety by upgrading this corridor to conform to state-of-the-art design criteria for roadways and bridges.

These improvements will help maintain the efficiency of an important link in the Michigan interstate system; and one that is vital to the local and state economy. Specific objectives of the proposed project include the following:

- Replace and rehabilitate deteriorating pavement and bridges
- Relieve congestion and improve traffic flow during construction
- Enhance safety on the I-75 freeway corridor
- Update and modernize the freeway system through modifications which would address current design criteria and guidelines
- Enhance mobility within the study area, while minimizing negative environmental, cultural, economic, social and adjacent property impacts

Need for the Proposed Project

I-75 was one of the first interstate freeway routes within Michigan and was constructed and opened to traffic in 1960. The service life of this facility has gone beyond the normal expectations for a freeway facility by nearly 20 years. Factors affecting the need for this project include the following.

- Existing geometric deficiencies
- Deteriorated pavement and bridge conditions
- Increased peak period traffic delays due to larger volumes of recreational vehicles
- Inadequate roadway and bridge shoulder widths to efficiently maintain traffic during construction

Figure 1.1
I-75 Corridor EA Study Area Map

LOCATION: I-75 from South of the I-675 bridge over I-75 located in Saginaw County to South of the US-10/M-25 interchange located in Bay County

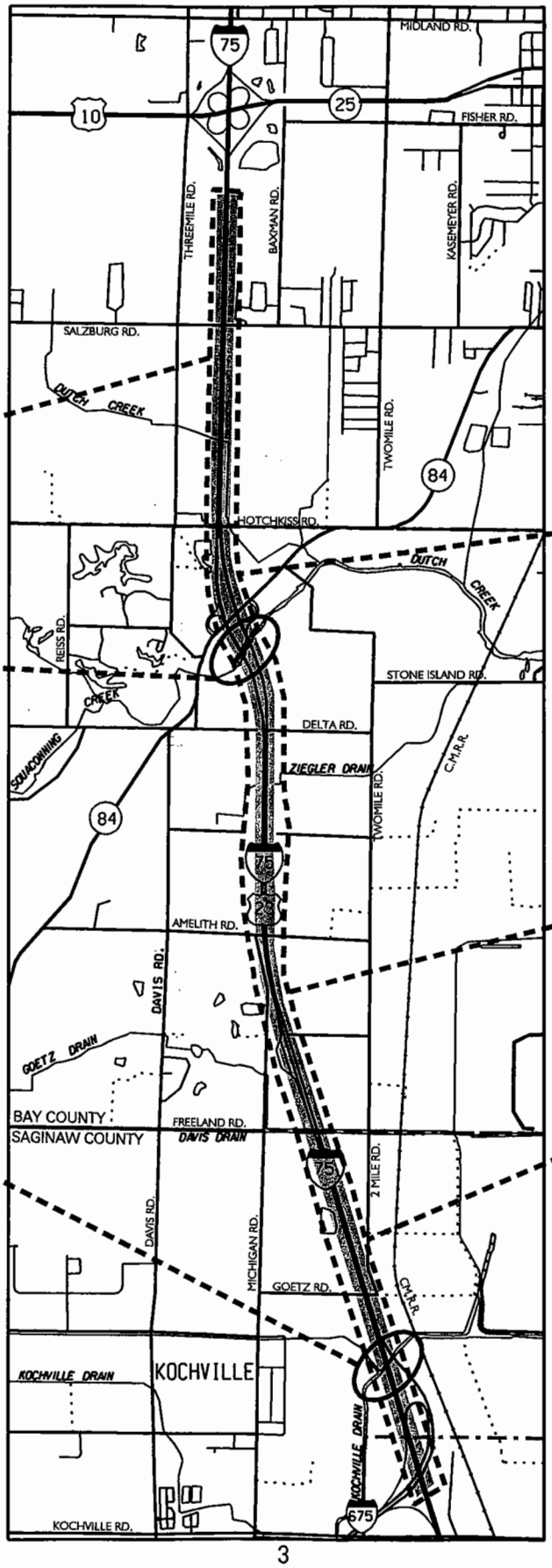
LENGTH: Approx. 6.8 miles

I-75 CORRIDOR STUDY AREA

RECONSTRUCT AND WIDEN TO 4 LANES WITHIN THE MEDIAN (2008)
North of Hotchkiss Roadto south of the US-10/M-25 interchange.

NB AND SB I-75 OVER SQUACONNING CREEK 2010
Widen bridge toward the median, deep concrete overlay and substructure repair.

NB AND SB I-75 OVER KOCHVILLE DRAIN (2011, 2012)
Widen bridge toward the median, a complete deck replacement and painting.



RECONSTRUCT AND WIDEN TO 4 LANES WITHIN THE MEDIAN (2008)
North of Hotchkiss Roadto south of the US-10/M-25 interchange.

NB AND SB I-75 OVER SQUACONNING CREEK 2010
Widen bridge toward the median, deep concrete overlay and substructure repair.

NB AND SB I-75 OVER KOCHVILLE DRAIN (2011, 2012)
Widen bridge toward the median, a complete deck replacement and painting.

GENERAL DESCRIPTION OF WORK:
Concrete reconstruction of existing 6-lane freeway section. An additional travel lane will be added to this segment of I-75 to accommodate future traffic volumes. The majority of the widening will occur within MDOT's existing median.
Several structures will need to be widen or replaced. These structures include: Kochville, Goetz/ Davis, and Ziegler Drains and Squaconning and Dutch creeks.

PROPOSED FUTURE WORK
Reconstruct and widen to 4 lanes along with improvements toM-84 interchange in conjunction with the M-84 (Delta Road to Euclid Avenue) corridor widening project.

RECONSTRUCT AND WIDEN TO 4 LANES WITH MEDIAN (2010)
Saginaw/Bay county line north to M-84

RECONSTRUCT AND WIDEN TO 4 LANES WITH MEDIAN (2011, 2012)
I-675 north interchange to the Saginaw/Bay county line.

MDOT
Michigan Department of Transportation

1.2 ALTERNATIVES CONSIDERED

1.2.1 No Build

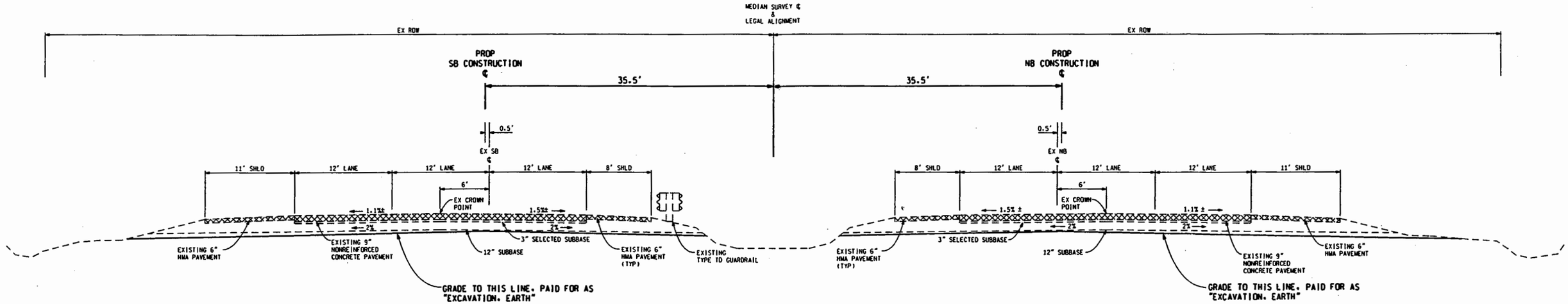
This alternative involves taking no action to improve and add capacity to the I-75 freeway segment that was identified in *Section 1.1*. This alternative includes only routine maintenance, repair, and preservation of the existing system. Route maintenance and preservation of the roadway and bridges in the project area will not correct all of the geometric and structural deficiencies identified, nor will it address current design criteria. Selection of the no build will result in potential negative consequences to the bridges including future weight restrictions and structural failures. This alternative will not address the issues presented in the project Purpose and Need. It is the base condition used for comparison with the other alternatives.

1.2.2 Reconstruct and Widen I-75

This alternative involves adding capacity, improving freeway access, improving roadway surfaces and bridge conditions, improving traffic operations and enhancing safety on I-75. MDOT is proposing to replace and rehabilitate deteriorating pavement and bridges within this segment of I-75 along with improvements identified herein. Capacity improvements are needed to maintain traffic during construction, enhance safety and accommodate future needs, as indicated in the Purpose and Need for this project. The proposed improvements would not require additional right of way. MDOT plans to widen the roadway using the existing median. The existing and proposed typical cross-sections for an enclosed median and open median are shown in **Figures 1.2 and 1.3**.

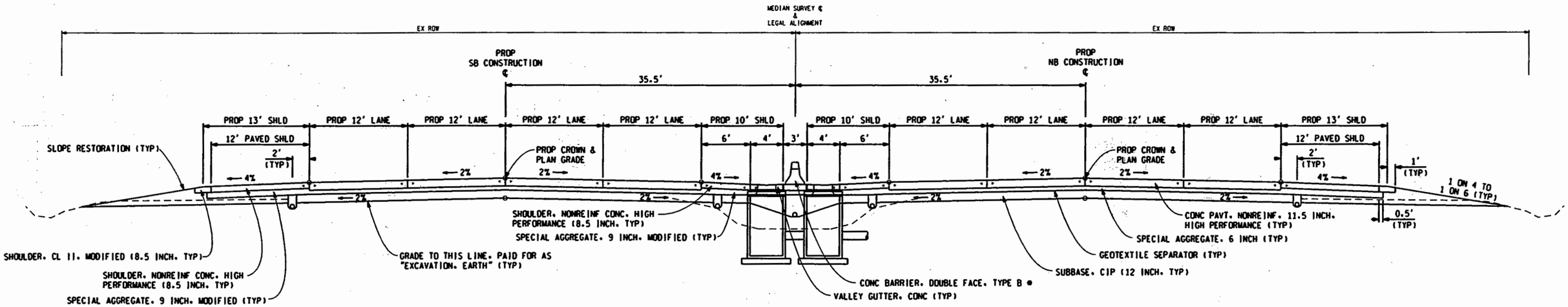
MDOT is proposing the following actions:

- Remove and replace the existing pavement along the I-75 corridor.
- Construct an additional travel lane on both northbound and southbound I-75 from south of the I-675 bridge over I-75 to south of the US-10/M-25 interchange. The widening will be in the median area, and a storm sewer will be included where the median is enclosed.
- A 4 ft. 3in. in height concrete barrier wall will be constructed in the median; however there is a mile long segment, which includes the I-75/M-84 Interchange area, in which no barrier wall will be constructed.
- Conduct drainage improvements to existing roadside ditches.
- Rehabilitation and widening of the I-75 bridge over the Kochville Drain (B02-1&2)
- Replace twin culverts with a box culvert and widen I-75 over Dutch Creek.
- Bridge rehabilitation and widening of I-75 over Squaconning Creek (B01-1 & 2)
- Culvert upgrades and widening of I-75 over the Goetz/Davis and Ziegler Drains



EXISTING I-75 TYPICAL 3-LANE SECTION

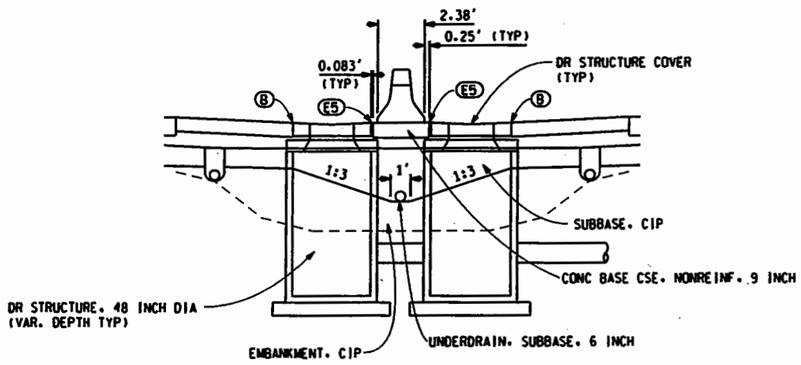
TO APPLY: STA 867+00 TO STA 902+80
STA 910+48 TO STA 914+58
STA 914+89 TO STA 924+54



NOTE: SEE ENLARGED DETAIL OF MEDIAN PAVEMENT AND DRAINAGE ITEMS AT LOWER LEFT FOR ADDITIONAL INFORMATION

PROPOSED I-75 TYPICAL 4-LANE SECTION

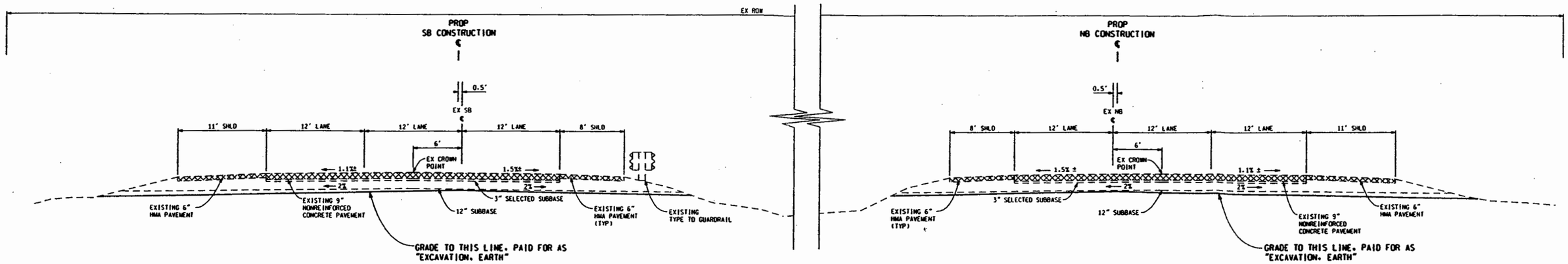
TO APPLY: STA 867+00 TO STA 914+58
STA 914+89 TO STA 941+42



ENLARGED MEDIAN DETAIL

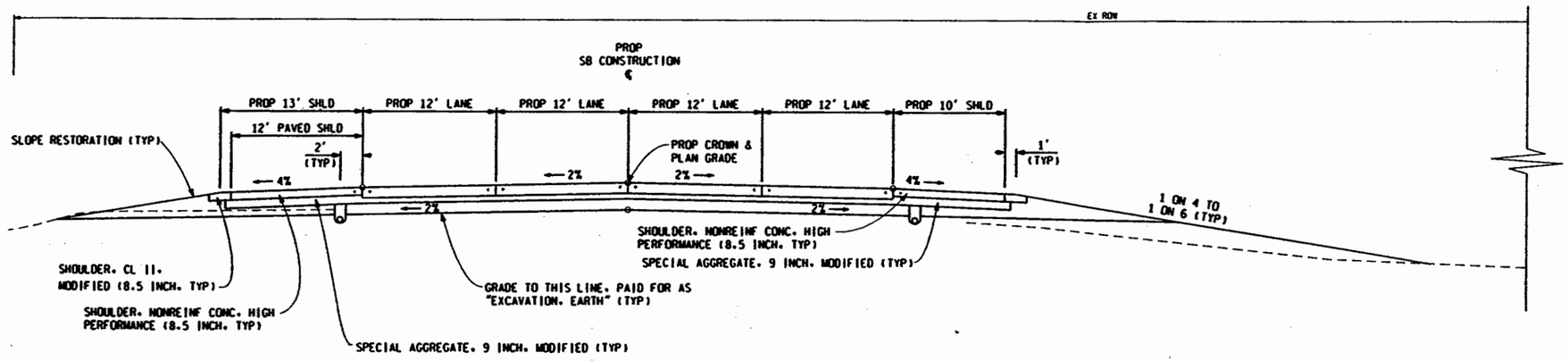
TYPICAL CROSS SECTION FOR ENCLOSED MEDIAN

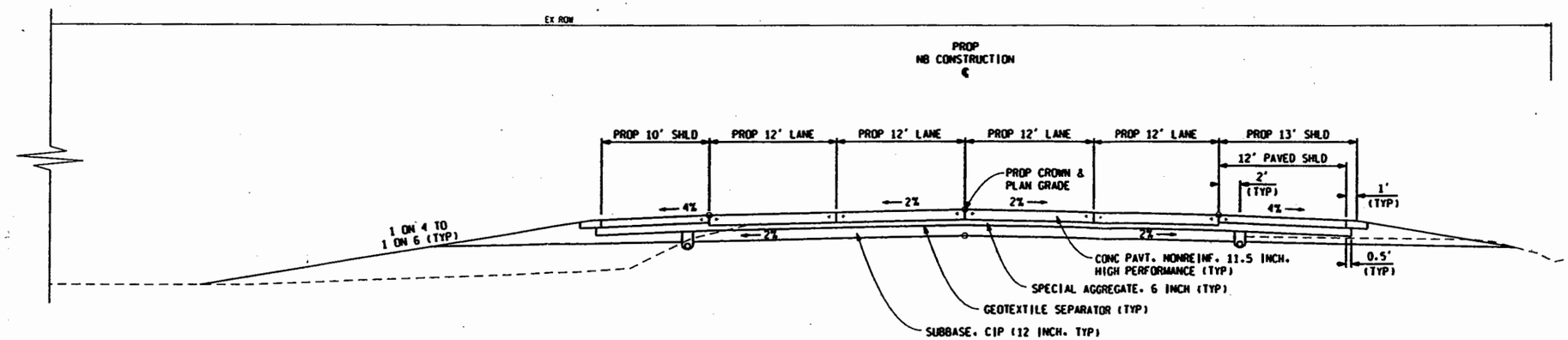
FIGURE 1.2



EXISTING I-75 TYPICAL 3-LANE SECTION

TO APPLY: STA 867+00 TO STA 902+80
STA 910+48 TO STA 914+58
STA 914+89 TO STA 924+54





PROPOSED I-75 TYPICAL 4-LANE SECTION

TO APPLY: STA 867+00 TO STA 914+58
STA 914+89 TO STA 941+42

TYPICAL CROSS SECTION FOR OPEN MEDIAN FIGURE 1.3

- Reconstruct the M-84 ramps and construct a bridge replacement for the structure over I-75 in conjunction with the M-84 corridor-widening project.

- Resurface the parking areas at the I-75 southbound rest area located north of Freeland Road.

- Median shoulder will be 10 feet, while the outside shoulder will be 12 feet. Design Standards will be met except for narrow shoulder widths at the structures over I-75.

1.2.3 Alternative Considered and Dismissed

MDOT considered other alternatives to address the existing deficiencies along I-75. MDOT considered replacing and rehabilitating the deteriorating pavement and bridges without widening the roadway and bridges. However, preserving the existing I-75 freeway system without widening for maintenance of traffic and accommodating future traffic growth would not alleviate all of the deficiencies discussed in *Section 1.1*.

1.3 Preferred Alternative

The Preferred Alternative for this project is the reconstruction and widening of I-75, as described in *Section 1.2.2*. The preferred alternative includes the construction of an additional travel lane for both northbound and southbound I-75, bridge rehabilitation, drainage improvements, and culvert upgrades and extensions. This alternative was selected as the preferred alternative because it will address the current and future issues identified in the project purpose and need more effectively than the other options.

1.4 Phasing Plan

Construction of these improvements will be phased over several years. The construction phases for this project have been amended to the Long Range Plans for both the Bay City Area Transportation Study (BCATS) and the Saginaw Metropolitan Area Transportation Study (SMATS) Metropolitan Planning Organizations (MPO). The project was amended to both plans in December 2006. The proposed improvements are also included in both MPOs' 2006-2008 Transportation Improvement Program (TIP) for early preliminary engineering.

The construction phasing will begin at the north limits and continue south to the I-675 interchange. The first construction phase which is scheduled to take place in 2008, will be from north of Hotchkiss Road to south of the US-10/M-25. The second construction phase which is scheduled to take place in 2010 will include the widening the bridge over Squaconning Creek, and reconstructing and widening from the Saginaw/Bay county line north to M-84. The third construction phase, which is scheduled to take place in 2011 and 2012, will be from the Saginaw Bay county line to south of the I-675 north interchange and bridge widening over Kochville Drain. Other future construction phases are planned but will not be scheduled until funds are identified for those phases. See **Figure 1.1** for a detailed list of proposed construction phases.

SECTION 2
AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MEASURES TO MITIGATE IMPACTS DURING CONSTRUCTION

As with all proposed projects, a review of potential social economic and environmental impacts was conducted by MDOT staff. Because of its limited scope, the proposed project is expected to have minimal, if any, negative impacts to the following: farmland, recreational/parklands, and aesthetics. Those impacts which had a reasonable possibility for individual or cumulative significant impacts were analyzed further. The result of this analysis, and measures to minimize short-term impacts during construction are discussed below.

2.1 RIGHT OF WAY IMPACTS

The proposed reconstruction and widening of I-75 will not require fee right of way or grading permits. No residential or commercial structures will be displaced as a result of this project. Also, no additional right of way will be required from farmland properties protected under the Federal Farmland Protection Policy Act (*See letter in Appendix A*); and Part 361 (formerly Public Act 116) of Public Act 451 Farmland and Open Space Preservation.

2.2 LAND USE

The existing land use adjacent to the I-75 corridor project area is primarily undeveloped rural farmland with the exception of several commercial developments at the M-84 interchange, and a residential development located north of I-75 and Salzburg Road. It is not anticipated that the proposed project will change land use patterns in the area, and because no new or modified access is being provided, the project will have no significant impact on future development patterns.

2.3 INDIRECT AND CUMULATIVE IMPACTS

When reviewing the I-75 corridor project for indirect and cumulative impacts, the potential impacts created by this project and other local projects near the study area were evaluated. **Table 2.1** lists the proposed MDOT projects adjacent to the study area.

TABLE 2.1 – Proposed MDOT Projects in the Surrounding Area

1	**I-75/Zilwaukee Bridge** – Miscellaneous Capital Preventive Maintenance (CPM) work including latex surfacing scheduled for late 2007.
2	**I-675 south terminal to north terminal** – deep overlay and resurface bridges and ramps, reconstruct two pedestrian bridges scheduled for 2009.
3	**M-84 Delta Rd. to M-13** – widening, reconstruction, and landscaping. This project is currently deferred until funds are identified for construction.

Source: MDOT 2007-2011 Five Year Program

The impacts from these projects will be temporary and will not cause long-term adverse effects. There will not be any affect to the existing land-use patterns, due to the fact that all the scope of work is taking place within the existing right-of-way and is of a preventative maintenance nature.

According to local units of government and the MPO for the area, it was determined that there are no local road improvement projects that may impact this project or that may be impacted by this project. In coordinating with local stakeholders it was determined that there are no major development projects planned for the immediate future within the study area.

The increase in impervious surface and associated increase in runoff are the only anticipated indirect impacts. There are no anticipated cumulative impacts created by the scope of this project or past activities to the project area. See the Water Quality discussion in *Section 2.11*.

2.4 SOCIAL IMPACTS

The proposed project will not cause any long term negative impacts on low-income, minority, ethnic, elderly or people with disabilities, or on area schools, churches or emergency services. The proposed resurfacing of the I-75 southbound rest area parking areas will be done in accordance with the 1992 Americans with Disabilities Act (ADA). No neighborhoods within the project area will be permanently separated from community facilities or services. Temporary traffic disruptions may occur during construction. Access for motorists, school buses, emergency service vehicles, and public transit will be maintained during construction. MDOT will coordinate with local officials in providing updated information to assist all motorists including emergency vehicles, school buses, and public transit in selecting the best route to use during construction.

2.5 ENVIRONMENTAL JUSTICE

The purpose of Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority and Low-income Populations is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. The proposed improvements will not cause disproportionately high and adverse human health or environmental effects on minority and low-income populations.

An analysis of the U.S. Census data for 2000 along with field reviews of the project area determined the presence of minority and low-income populations within the townships of Kochville, Zilwaukee, Frankenlust, and Monitor (See **Table 2.2**).

TABLE 2.2 - Census Information

Unit of Government	Total Population	Percentage of Minority Populations	Percentage of Individuals below the poverty level
Kochville Township	3,241	Over 21%	15.9%
Zilwaukee Township	61	9.8	0.0%
Frankenlust Township	2,530	4.3%	3.2%
Monitor Township	10,037	2.2%	5.5%
Bay County	110,157	5.1%	9.7%
Saginaw County	210,039	Over 24%	13.9%
State of Michigan	9,938,444	Over 19%	10.5%

Source: 2000 U.S. Census Data

As previously mentioned, no right of way will be required from the property owners that live near the I-75 freeway. However there are several homes located on the eastside of I-75 just north of Salzburg Road that will be affected by increased noise levels (*refer to Section 2.7 Noise*). Based on the analysis and MDOT's Noise Policy, it was determined that a noise barrier would not be reasonable for this location. However, additional vegetation such as trees and other plantings will be evaluated during the design phase of this project.

During construction, there may be temporary impacts such as delays in travel times. However, upon completion, the proposed improvements will provide for a more efficient and safer freeway system by alleviating long-term congestion and improving traffic flow.

Although the proposed project will not displace or cause disproportionately high and adverse impacts on minority and low-income populations within the project area, a continuing effort will be made to identify any additional impacts that may have a disproportionately high and adverse effect on minority and low-income populations during subsequent phases of this project. If additional impacts are identified, every effort will be made to actively involve the impacted groups in the project development process.

2.6 CULTURAL RESOURCES

Historic Resources

No above-ground historic properties will be affected by the proposed reconstruction and widening of I-75. The interstate system is exempted from consideration as a historic property as approved by the Advisory Council on Historic Preservation (Federal Register –Volume 70, Number 46, Page 11931). None of the portions of I-75 within the proposed project limits, including the bridges, interchanges, and rest areas, were excluded from this exemption. The widening of I-75 itself will take place in the median of the already 6-lane freeway. No buildings exist near the bridges slated for reconstruction, rehabilitation, and/or widening, with the exception of a late twentieth-century commercial building near Squaconning Creek and M-84.

The work at M-84 will stay within the footprint of the existing interchange, which was previously cleared by the State Historic Preservation Officer (*letter dated December 21, 1995 is included in Appendix A*).

Archaeological Resources

The archaeological Area of Potential Effect (APE) for this corridor project has been researched and there are no known extant archaeological resources within the APE. Additionally, the M-84 reconstruction Environmental Impact Statement included the I-75/M-84 interchange work which was previously cleared by the State Historic Preservation Officer (*letter dated December 21, 1995 is included in Appendix A*). Consultations with the Office of the State Archaeologist have been completed on both the APE and the effects regarding archaeological resources. Therefore, as a result of these consultations, it has been determined and agreed that *no historic properties are affected* for archaeological resources by this undertaking. Finally, in the event any unknown archaeological resources are accidentally identified during the execution of the work, it is also agreed that the site is only important for the information it may reveal and not for preservation in place.

Section 106 - Traditional Cultural and Religious Properties

Project early coordination letters were sent to the twelve (12) federally recognized Tribes of Michigan seeking comments regarding any issues and/or special concerns relating to this undertaking. Also, there are no known traditional cultural and/or religious properties claimed or reported by any other cultural group within the area of potential effect. Subsequent to these tribal notifications, no requests for consultation or identification of any Traditional Cultural and/or Religious Properties were received from any of the twelve federally recognized Tribes. Therefore, since there are no reported impacts to traditional cultural and/or religious properties and no requests for consultation caused by this undertaking regarding any such properties, *no historic properties are affected* and the Section 106 process pertaining to traditional cultural and/or religious properties has been completed.

2.7 NOISE

Noise is unwanted sound which is typically measured in decibels (dB). The human ear can only decipher a midrange in the full sound frequency range. The sound meter is adjusted using a formula called weighting to fine-tune the measurements to the sound levels relative to the level of human hearing. This is called "A" weighting and is indicated as "dBA". The sound level for FHWA's noise abatement criteria is based on the sound level averaged over an hour and is labeled as the L_{eq} (h) (**Table 2.3**). MDOT's noise policy considers a significant noise impact to be when a noise level approaches the noise abatement criteria by one dBA, or is 10 dBA over the noise abatement criteria. A level of 66 dBA or greater is considered to be an impact for Noise Abatement Criteria Activity Category B which includes residential areas.

TABLE 2.3 FHWA Noise Abatement Criteria

Activity Category	$L_{eq}(h)$	Description of Activity Category
A	57 dBA (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dBA (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 dBA (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches libraries, hospitals, and auditoriums

FHWA's Traffic Noise Model (TNM) Look-Up tables were used to determine the noise levels for existing and future build alternative. TNM Look-Up tables is a basic traffic noise modeling software that determines potential noise levels based on traffic counts and distance from the receivers. The software also produces a rough estimate of the noise reduction effectiveness of a noise wall.

The outdoor activity areas (usually backyards) in dense residential land use areas are the typical focus of noise analysis. The majority of the land uses adjacent to the project area are primarily undeveloped land with occasional single family residences. No additional noise impacts are expected within the project area. A noise analysis was done for the subdivision located in the northeast quadrant I-75 and Salzburg Road. The existing and future vehicle counts were determined for the project and used in the analysis. (**Table 2.4**)

Table 2.4
Peek Hour Vehicle Counts for NB I-75 (M-84 to US-10)

Vehicle Type	Vehicle Counts	
	2007	2030
Automobiles	3936	5472
Medium Trucks	54	75
Heavy Trucks	110	153

Two receivers were located in the back yards adjacent to I-75. The distance was measured between the centers of the present and proposed expanded highway. (**Figure 2.1**)

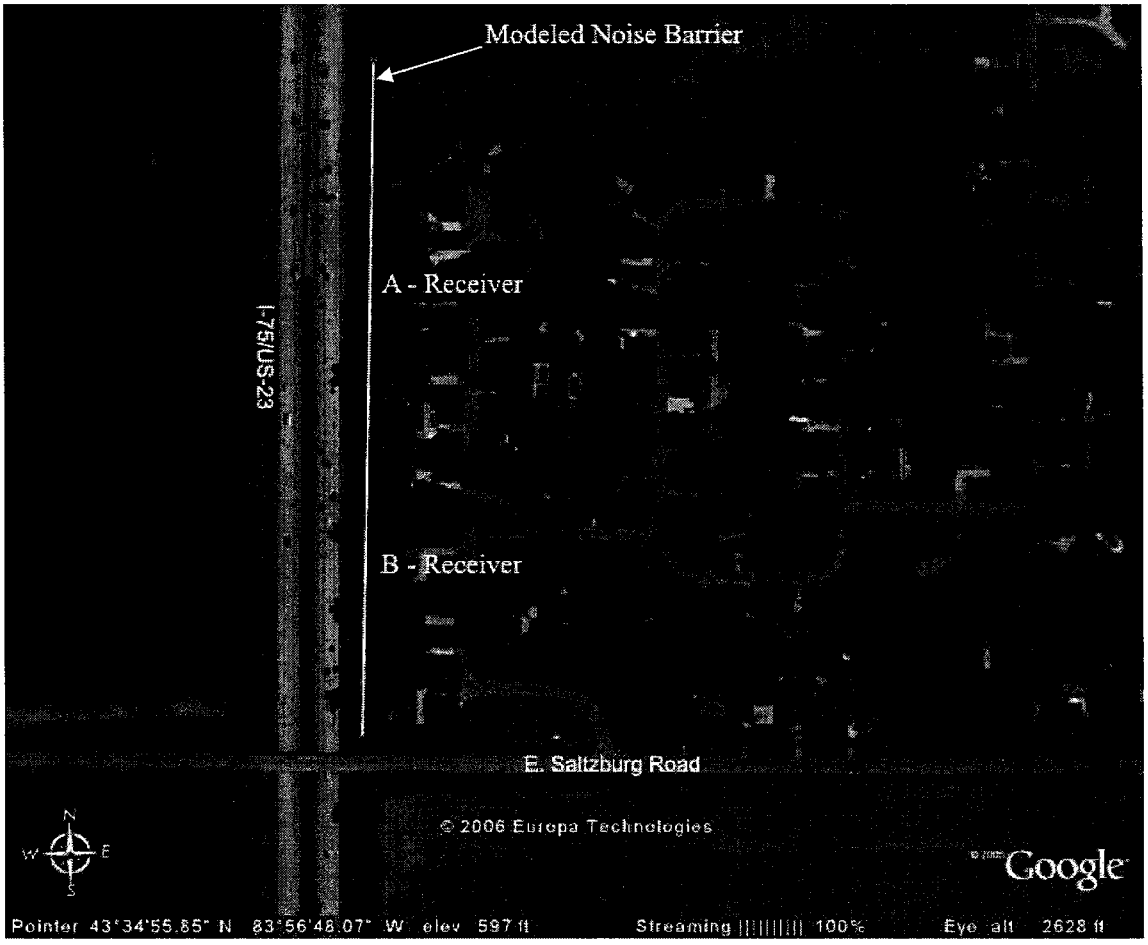
The distances and the vehicle counts were input into the TNM Look-Up Table software. The noise barrier was included in the 2030 analysis. The resulting noise levels are shown in **Table 2.5.**

Table 2.5 Modeled Noise Levels

Receiver	Noise Level [$L_{eq}(h)$]		
	Existing (dBA)	2030 without Wall (dBA)	2030 with Wall (dBA)
A	68.8	69.7	62.0
B	68.8	69.7	62.0

The modeled existing noise levels are significantly above the 66 dBA noise abatement criteria level. The 2030 scenario without a noise wall shows a 0.9 dBA increase. The noise level increase is mitigated by the additional lane which moves the center of the highway away from the receivers. The consideration for noise abatement, typically a noise wall, was conducted due to the noise levels having a significant impact on the receivers.

FIGURE 2.1 – Location of Receivers



In accordance to CFR 23 part 772 and MDOT's Policy on Noise Abatement (Guidance Document #10136, July 31, 2003), the feasibility and reasonableness for noise abatement is studied before noise abatement is recommended. Feasibility considers whether a noise barrier can be constructed and that it can obtain at least a 5 dBA noise reduction. The definition of

reasonableness states that the comparative construction costs of a noise wall will be $36,907 (2006) or less per benefiting dwelling unit. The construction cost of a noise wall is calculated to be approximately $500 per linear foot ($219.60 per linear foot + $23.77 ft^2). The per-benefiting-dwelling-unit amount is determined by the construction cost multiplied by the length of the proposed wall divided by the number of benefiting dwellings.

The TNM Look-Up Tables were run with the noise wall located along the MDOT right-of-way. (**Figure 2.1**) To be effective for the Salzburg Road residents who are adjacent to I-75, a proposed noise barrier would need to be around 1378 feet long. The resulting model run illustrates that a noise barrier would provide about an 6.8 dBA reduction in noise. (**Table 2.5**) The per-benefiting-dwelling-unit cost calculates to be $57,417.

Based on the TNM Look-Up Tables modeling run, the noise wall is feasible but not reasonable. Therefore, the noise wall will not be recommended. There are some small trees and other vegetative growth along the right-of-way that partially screen the highway from the residences. Additional vegetation could be added to enhance the screening of the highway from the residences located adjacent to the corridor.

2.8 AIR QUALITY

The counties included in the project are designated by the United States Environmental Protection Agency (USEPA) to be in attainment for all criteria pollutants. Because this project is in a full attainment area, it is not subject to the conformity procedures required in 40 CFR parts 51 and 93.

CFR 93.123 lists the conditions under which a project is required to undertake microscale, or "hot-spot", analyses for carbon monoxide (CO), particulate matter of 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$). The project's existing and future characteristics are not reflected in CFR 93.123, therefore no microscale analyses for the previously mentioned pollutants are required.

2.9 THREATENED AND ENDANGERED SPECIES

Threatened and endangered species are legally protected by the State of Michigan's Natural Resources and Environmental Protection Act, Act 451 of the Public Acts of 1994, Part 365; and the Federal Endangered Species Act of 1973, as amended. A threatened species (T) under the Acts is likely to become an endangered species within the near future throughout all or a significant portion of its range. An endangered species (E) under the Acts is defined as being in danger of extinction throughout all or a significant portion of its range. Special concern species (SC) are not afforded legal protection under the Acts, but are of concern because of declining or relict populations within Michigan or are species for which more information is needed.

The Michigan Department of Natural Resources (MDNR) and the U.S. Fish and Wildlife Service (USFWS) were consulted in order to determine the potential for listed species within the project area. The MDNR (*letter dated December 12, 2006*) and the USFWS *(letter dated December 19,*

2006) responses indicate that no state or federally listed plant or animal species are present within the project area (**Appendix A**).

Additional reviews of the Michigan Natural Features Inventory database will be made at future points during this project in order to verify that no new T/E/SC species have been found. If any state or federally listed T/E/SC plant or animal species are located, that will be affected by construction activities, then consultation with the MDNR and the USFWS will be initiated immediately. This may require an Endangered Species Permit from the MDNR or informal Section 7 Consultation with the USFWS.

2.10 STREAM CROSSINGS

Stream Crossing Description

Six watercourses fall within the project limits. Listed from north to south they are Dutch Creek, Squaconning Creek, Ziegler Drain, Goetz Drain, Davis Drain, and Kochville Drain (**Table 2.6**).

Dutch Creek, located in Bay County's Monitor Township, is approximately 5.0 miles in length and has a base flow within the project area between approximately 1 and 5 cubic feet per second (cfs). Dutch Creek, which is roughly 40 feet wide by 6 feet deep, is crossed by one structure in the project area. The existing I-75 structure is a twin concrete pipe culvert 96 inches in diameter and 189 feet in length. As part of the project this structure will be replaced with a 16 x 8 foot concrete box culvert 192 feet in length and will be realigned to the natural stream channel.

Squaconning Creek, located in Bay County's Frankenlust Township, is approximately 4.9 miles in length and has a base flow of approximately 5 – 20 cfs. The existing channel is 105 feet wide (top of bank to top of bank) by 5 feet deep and is crossed by two structures in the project area. The existing northbound I-75 structure, a steel multi stringer composite bridge, has a deck width of 96.3 feet. This structure was originally built in 1960 and was reconstructed in 1985. The existing southbound I-75 structure is exactly the same as the northbound structure with two exceptions; it has an overall deck width of 111.1 feet and was reconstructed in 1987. Both bridge decks will be rehabilitated with a deep overlay and widened towards the median as part of the proposed project. The new deck width for the northbound lanes will be 118 feet, an increase of 21.7feet, and 126.5 feet for the southbound lanes, an increase of 15.4 feet, for a total increase in deck width of 37.1 feet. The existing abutments will need to be extended and new beams added to accommodate this change.

Ziegler Drain, also located in Frankenlust Township, is approximately 1.9 miles long and the existing channel is roughly 24 feet wide by 2.5 feet deep. It is crossed by one structure in the project area. The existing I-75 structure is a single 44 x 68 inch concrete elliptical culvert 188 feet in length.

Goetz and Davis drains are located on the dividing line between Bay and Saginaw counties. Goetz Drain located less than 50 feet to the north of Davis Drain and separated by an earthen dike, is approximately 3.2 miles in length and the larger of the two water courses. Goetz Drain is roughly 30 feet wide (top of bank to top of bank) by 2 feet deep and is crossed by one structure

in the project area. The existing I-75 structure is a single 8 x 16 foot concrete slab culvert totaling 150 feet in length and carrying 6 traffic lanes. This structure was built in 1967. As part of the proposed construction, it will be necessary to extend this culvert approximately 8 feet on either end for a new length of 166 feet. Davis Drain, approximately 1.2 miles long, 22 feet wide, and 3 feet deep, is also crossed by one structure in the project area. The existing I-75 structure is a 72 x 112 inch concrete elliptical culvert totaling 163 feet in length. There are currently no plans to extend this culvert.

Kochville Drain, located in Saginaw County's Kochville Township, is approximately 8.1 miles in length and roughly 70 feet wide by 2 feet deep. This stream is crossed by two structures in the project area. The existing northbound I-75 and southbound I-75 structures are steel multi stringer composite bridges. Each bridge has two spans totaling 52 feet in length. There are three lanes on each deck with each deck having an overall width of 72.3 feet for a total of 144.6 feet. The structures were originally built in 1960 and were reconstructed in 1974. As part of this project MDOT will enclose the median between the two bridges. Both of the bridge decks will be replaced, increasing the deck width from 144.6 feet to 172 feet, new beams will be added in the median area, and the bridge will be painted. Existing beams and abutments will remain in place.

Stream Crossing Impacts

In instances where replacement of culverts is necessary, some disturbance of the creek bottom will occur when the culvert is removed and replaced. Additional disturbance may occur along the creek banks to accommodate the riprap necessary to prevent scouring of the culvert headwalls or bridge abutments. These impacts are temporary and are not anticipated to adversely affect the stream channel or aquatic habitat or fauna.

Stream Crossing Mitigation

Strict soil erosion and sedimentation controls, including construction staging, will be implemented during all construction activities, especially those that take place within or adjacent to the described water courses. For protection of the State's fisheries values, the following stream crossing design criteria will be considered wherever feasible. Culvert width should, at a minimum, span the channel at the ordinary high water mark. Culverts should be aligned with the natural slope and sinuosity of the stream channel except where doing so would greatly increase the length of the culvert. A natural channel bottom within the culvert is preferred. To accomplish this, the bottom of the culvert should be buried below the stream bed elevation to allow the natural stream substrate to fill in the bottom of the culvert. To stabilize areas of the stream channel disturbed by construction activities, stream bed protection stone should be installed to the elevation of the pre-existing stream bed. If replacement of any of the bridge structures is deemed necessary, removal of the existing piers in the water will be done inside cofferdams to isolate the construction activity from the flowing watercourse. Treatment of water from dewatering operations will occur within upland areas. Sediment laden water will not outlet directly into any of the aforementioned water bodies.

Table 2.6 Summary of Major Stream Crossings within the Project Limits

No.	Name of Watercourse	Existing Structure Type	Existing Dimensions	Proposed Structure Change	Proposed Dimensions
1	Dutch Creek	Twin, concrete pipe culvert	96" diameter 189' long	Single, concrete box culvert	16' x 8' 192' long
2	Squaconning Creek	Steel, multi-stringer, composite bridge	106' long 207.4' deck width (NB plus SB lanes)	Widen both bridge decks towards median*	244.5' deck width
3	Ziegler Drain	Concrete elliptical culvert	44" x 68" 188' long	No change*	No change*
4	Goetz Drain	Concrete slab culvert	8' x 16' 150' long	Add extensions*	166' long
5	Davis Drain	Concrete elliptical culvert	72" x 112" 163' long	No change*	No change*
6	Kochville Drain	Steel, multi-stringer, composite bridge	52' long 144.6' deck width (NB plus SB lanes)	Enclose median area	172' deck width

* final structure design will be adjusted pending results of hydraulic analysis

2.11 WATER QUALITY

Watershed Description

The watercourses within the study area are located within the lower portion of the Saginaw Bay watershed. This is Michigan's largest watershed (8,709 square miles) encompassing 22 counties and draining approximately 15% of Michigan's total land surface. The resources of this watershed, one of Michigan's most diverse areas, support agriculture, manufacturing, tourism, outdoor recreation, and a vast variety of wildlife. The water courses within the limits of this project drain several smaller subwatersheds within the Saginaw River watershed. The smallest of these is the Dutch Creek subwatershed draining a land area of 11.47 square miles (sq mi) and outletting to the Saginaw River. Next largest is the Squaconning Creek subwatershed which includes Squaconning Creek and the Kochville-Frankenlust Drain. This 24.84 sq mi subwatershed outlets to Dutch Creek. At 27.44 sq mi the Kochville Drain subwatershed is the largest and includes Goetz Drain, Davis Drain, and Kochville Drain. These streams furnish water to the wetlands in the Crow Island State Game Area prior to outletting to the Saginaw River.

Ground Water

The primary soil type within the project area is Tappan loam with Londo loam making up the second largest area. Loam is a mixture of clay, silt, and sand particles, with less than half the particle composition being sand. These two soil types are characterized by nearly level (0-2% slopes), poorly to somewhat poorly drained soils having slow runoff with areas of potential ponding. During November through May the water table depth is 2 feet or less. Ground water recharge, which typically refers to the amount of precipitation, either rainfall or snowmelt, that infiltrates through the ground and reaches the water table *aquifer*, is extremely low, less than 6 inches per year. Since this area has such a low recharge rate contamination of the ground water aquifer by road runoff is not a concern. No Well Head Protection Areas, which are established for protection of public drinking water supply, were found to be located in the vicinity of the project. Additionally, a review of the MDEQ database revealed no areas of ground water contamination or leaking underground storage tanks, areas which, if improperly handled during construction, could potentially impact ground water.

Project Impacts

The proposed project will create additional impervious area which will result in an increased rate of storm water runoff and potentially increase sedimentation and levels of other pollutants associated with roadways. Due to techniques employed to manage storm water runoff, however, adverse impacts to water quality from post construction road runoff are not anticipated. In compliance with our statewide National Pollutant Discharge Elimination System (NPDES) permit, MDOT utilizes standard Best Management Practices (BMPs) for storm water to the maximum extent practicable when designing roadway drainage systems. For this project, BMPs include drainage from the road and bridge approaches being routed overland through vegetated swales where feasible, thus giving an opportunity for sediments and other pollutants to be filtered by vegetation prior to being discharged to a surface water body. Significant filtration is expected due to the length of overland flow through existing swales.

Recommended mitigation for post construction water quality impacts includes maximizing the use of vegetated swales for drainage conveyance and avoiding direct discharge of bridge runoff to surface water in locations where bridges or culverts will be replaced or extended.

Soil Erosion and Sedimentation Control During Construction

Accelerated erosion caused by construction will be controlled before it enters a water body or leaves the right-of-way by the placement of temporary or permanent erosion and sedimentation control measures. MDOT has developed a series of standard erosion control specifications to be included on design plans to prevent erosion and sedimentation. The design plans will describe the erosion controls and their locations.

MDOT has on file with MDEQ an approved operating erosion and sedimentation control program to ensure compliance with Part 91, Soil Erosion and Sedimentation Control of Act 451, as amended. MDOT has been designated an "Authorized Public Agency" by the MDEQ and is self-regulated in its efforts to comply with Part 91. However, the MDEQ may inspect and enforce soil erosion and sedimentation control practices during construction to ensure that MDOT and the contractor are in compliance with Part 91.

The following is a partial listing of general soil erosion and sedimentation control measures to be carried out in accordance with permit requirements.

- No work will be done in any of the water bodies listed in *Section 2.11 Water Quality* during periods of seasonally high-water, except as necessary to prevent erosion.

- Road fill side slopes, ditches, and other raw areas draining directly into water courses will be protected with riprap (up to three feet above the ordinary high water mark), sod, seed and mulch, or other measures, as necessary to prevent erosion.

- Areas disturbed by construction activities will be stabilized and vegetated within 5 days after final grading has been completed. Where it is not possible to permanently stabilize a disturbed area, appropriate temporary erosion and sedimentation controls will be implemented. All temporary controls will be maintained until permanent soil erosion and sedimentation controls are in place and functional.

- The contractor shall have the capability of performing seeding and mulching at locations within 150 feet of any streams or drains within 24 hours of being directed to perform such work by the project engineer.

- Special attention will be given to protecting the natural vegetative growth outside the project's slope stake line from removal or siltation. Natural vegetation, in conjunction with other sedimentation controls, provides filtration of runoff not carried in established ditches.

- The contractor is responsible for preventing the tracking of material onto local roads. If material is tracked onto roads, it shall be removed.

- Any ditch cleanouts shall be staged so that a vegetated buffer area at least 200 feet in length is left undisturbed between the cleanout area and the edge of any water course. If necessary, these buffer areas may be cleaned out after permanent vegetation has been established in the adjacent, previously disturbed sections.

- Clean out of cement trucks will occur in upland areas only and effluent from the cleaning operation shall be prevented from entering any surface water body.

2.12 WILDLIFE

Wildlife use of the project area, particularly the median of I-75, is limited in terms of species composition and number of individuals. Direct observation of use and the presence of dead animals indicate the area is used primarily as foraging habitat for birds and otherwise is an area generally avoided except when attempting to cross from one side of the roadway to the other. Birds observed at perches along the roadway, or foraging in the median include European Starling (*Sturnus vulgaris*), Red-tailed Hawk (*Buteo jamaciensis*), and American Kestrel (*Falco sparverius*). Evidence of mammal use, or presence, within the right-of-way includes Meadow

Vole (*Microtus pennsylvanicus*), Raccoon (*Procyon lotor*), Muskrat (*Ondatra zibethica*), White-tailed Deer (*Odocoileus virginianus*), and Virginia Opossum (*Didelphis marsupialis*). All of these species are widespread and abundant locally and statewide, and no population level effects due to the project will occur.

The only regularly breeding avian species in the median is the Barn Swallow (*Hirundo rustica*) that places its nest on the exposed beams of the Squaconning Creek bridges and possibly the Kochville Drain. The bridges are estimated to hold a summer nesting population of about 15 pairs. This species is one of the most abundant and widespread species in Michigan (Brewer, et al., 1991) and no population level effect at the local or larger spatial scales will occur. The special provision designed to avoid impacts to nesting migratory birds will be incorporated into the design specifications and plan sheets. This specification is employed to deny birds access to the underside of the bridge prior to the initiation of construction activity; additional instructions are provided should birds gain access and initiate a clutch of eggs. Steps leading to the total cessation of work until the birds have successfully fledged young are also included in the specification.

Short term or long term effects to this specific breeding location will be dependent upon the construction schedule and the final design of the bridge. Short term effects will result from application of the migratory bird specification during work on the bridge to avoid an incidental take of a nest with eggs or young and are expected to affect a single nesting season. Longer term effects are tied to bridge design, if a bridge of similar design is provided, the Barn Swallow will re-occupy the site once construction is ended; if another design is selected that provides fewer, or no, attachment points for nests, then the species will be affected accordingly. Based upon the available information, a bridge of similar design using I-beam support will be used and should provide additional nesting opportunities over the existing condition once construction has been completed.

2.13 FISHERIES

The water bodies within the study area support a warm water fisheries community. Native fish species found in these streams include, but are not limited to, Northern Pike (*Esox lucius*), White Sucker (*Catostomus commersonii*), and Longnose Sucker (*Catostomus catostomus*). During the spring months, these waters are also utilized by these species and Yellow Perch (*Perca flavescens*) for spawning activities.

Potential adverse impacts to native fish populations from this project include temporary increased sediment deposition and turbidity. Potential for these impacts during construction will be mitigated by implementation of best management practices described in *Section 2.11 Water Quality.*

Fisheries Mitigation

The Michigan Department of Natural Resources fisheries staff has recommended seasonal work restrictions to protect spawning activities of native fishes. Therefore, no work shall be permitted within the stream channel from March 1st through May 31st unless it is performed inside an enclosed cofferdam installed prior to "no work"

restriction dates. Preferred timing for any necessary in-channel work is during low flow conditions, from June 1st through August 31.

2.14 FLOODPLAINS/HYDRAULICS

Inspection of Flood Insurance Rate Maps (FIRM) show an extensive area of floodplain along the I-75 project corridor from south of Hotchkiss Road in Bay County into northern Saginaw County to the southern project limit. The existing I-75 roadway is elevated above the 100 year flood elevation for all of this distance and serves as the western boundary (on the east side of the roadway) from Hotchkiss Road south to the crossing of Goetz and Davis Drains **(Figure 2.2)**.

Impacts to the 100 year floodplain will not result from construction of the new interior road surface as the roadway is above the base elevation and does not offer flood storage capacity. Impacts to the floodplain will occur at the locations of stream crossing within the project corridor. The potential impacts are discussed below.

Dutch Creek (Kolb Drain), (Monitor Township, Bay County). As part of the project the existing twin 96 inch concrete culverts will be replaced with a 16 x 8 foot concrete box culvert 192 feet in length and will be realigned to the natural stream channel. The hydraulics analysis shows that this design will result in an improved upstream condition over the existing condition.

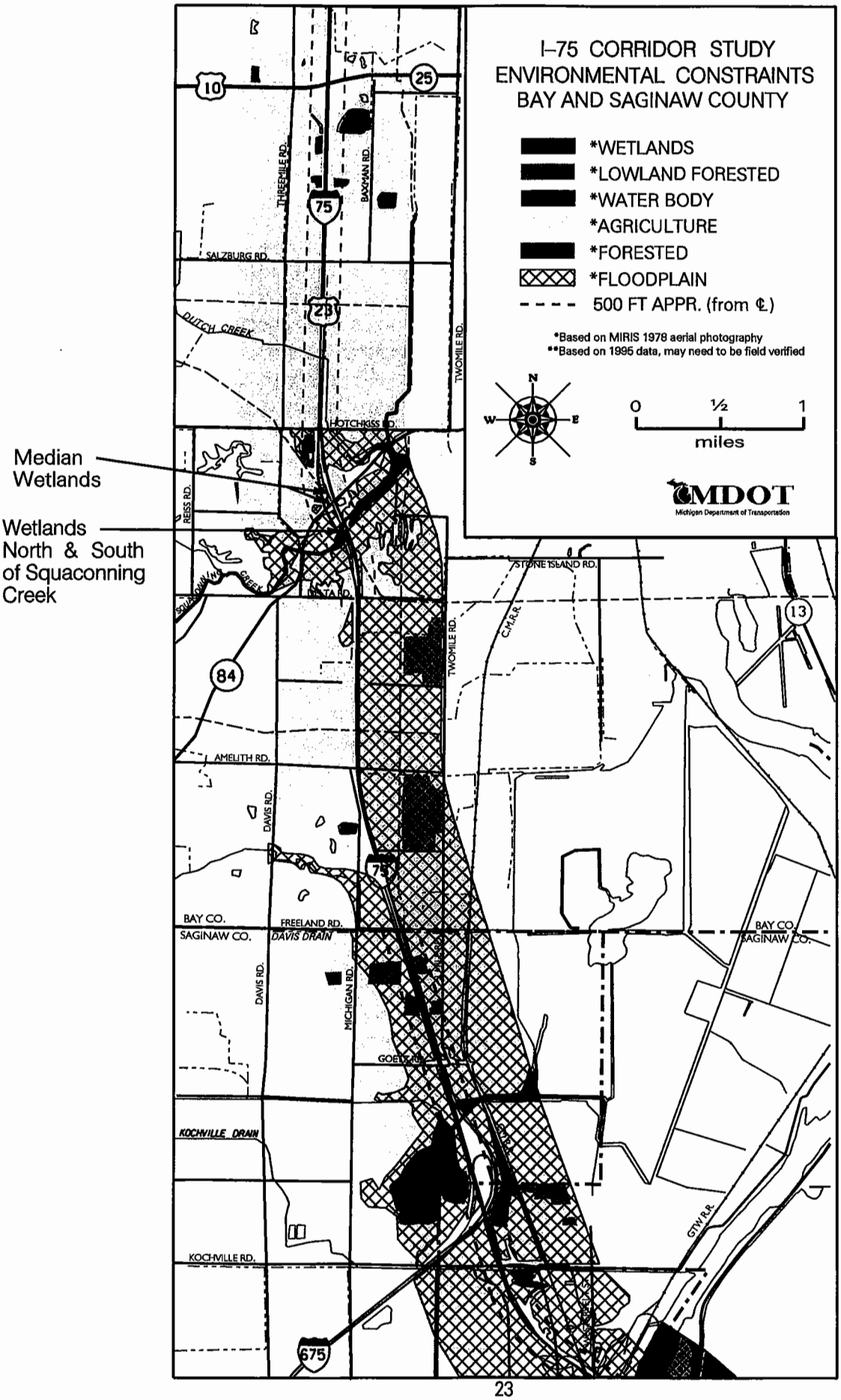
Squaconning Creek (Frankenlust Township, Bay County). The existing abutments will be extended to support additional beams for an expanded bridge deck. The preliminary hydraulic analysis has not yet been completed for these structures (northbound and southbound). If the bridges are found to be undersized during the detailed design phase, efforts to increase the bridge opening will be explored and implemented. If enlargement of the existing bridge opening is not feasible, total replacement of both structures will then be considered. This structure is not scour critical; however, MDOT will place adequate scour countermeasures as necessary.

Ziegler Drain (Frankenlust Township, Bay County). The proposed project does not include any changes to the existing culvert as the median is already enclosed. The proposed road grade change does not negatively impact hydraulics. The proposed project will meet the requirements of the State Floodplain Statute Part 31.

Goetz Drain (Frankenlust Township, Bay County) and *Davis Drain* (Kochville Township, Saginaw County). As part of the proposed project, it will be necessary to extend this culvert about eight feet on both ends. The proposed road grade change does not negatively impact hydraulics. The proposed project will meet the requirements of the State Floodplain Statute Part 31.

Kochville Drain (Kochville Township, Saginaw County). No impacts to floodplains are anticipated at this structure as the existing abutments will remain in place and their decks replaced, with the expansion of the deck toward the median.

Figure 2.2
Environmental Constraints Map



All structures will be designed to meet or exceed the ability to pass the 100 year flood flow. No adverse impacts to flood plains are expected to occur as a result of the project. Minor fill into the floodplain will take place to expand the travel lanes near Squaconning Creek or in conjunction with riprap placed at stream crossings; otherwise all work will take place in the median above the existing 100 year flood elevation.

2.15 WETLANDS

Wetlands within the project limits are associated with natural stream corridors, county drains or roadside ditching. All of the wetlands identified within the corridor are classified as persistent emergent wetlands (Cowardin, et al., 1979) and are dominated by Narrow-leaved Cattail (*Typha angustifolia*) and the hybrid cattail *T. x glauca*, or Common Reed (*Phragmites australis*). Two areas will be impacted within the median of the roadway as shown in **Figure 2.2**, with total estimated wetland impacts of about 0.49 acres which will be mitigated at a ratio of 1.5:1 for a total mitigation of 0.74 acres. The wetland mitigation will be done on site if possible or will be done at an approved Moment of Opportunity (MOO) site.

A 0.63 acre cattail dominated wetland located north of the M-84 interchange along the northbound lanes of I-75 will be reduced by 0.20 acres in order to provide a crossover for traffic movement and maintenance operations. The area appears to be a secondarily derived wetland that has developed due to grading of the original right-of-way and drainage from both the northbound and southbound lanes of I-75 that provides sufficient hydrology to support wetland vegetation.

A wetland within the riparian corridor of Squaconning Creek immediately south of M-84 is dominated by Common Reed, with scattered Narrow-leaved Cattail and Purple Loosestrife (*Lythrum salicaria*). The total wetland area is 1.89 acres in size within the median, 0.26 acres of which will be impacted by the project south of the stream.

The general quality of the wetland located along Squaconning Creek has decreased since the early 1970's when the wetland was dominated by Broad-leaved Cattail (*Typha latifolia*), Broad-leaved Arrowhead (*Sagittaria latifolia*), and other wetland species (pers. ob.). Based upon the existing vegetation dominated by invasive native and non-native species and the small area of impact in respect to location within the median, the loss of this wetland does not represent a significant impact to local resources.

The remaining wetland impacts will occur at locations associated with culvert work at county drains and represent impacts of 0.01 acres in each instance.

Based on the above the project will have minimal affect upon wetlands.

2.16 CONTAMINATED SITES

A general Department of Environmental Quality (DEQ) database check was conducted to determine if any potential sites of environmental contamination exist that could affect the project's design, cost, or schedule. A general DEQ database check entailed searching the DEQ

Leaking Underground Storage Tank Site Database; the DEQ Part 201 Site List Database; and the DEQ, U.S. Geological Survey (USGS), and MSU Institute of Water Research Groundwater Mapping Project Database.

Excluding those known and potential sites documented in the Hazardous Materials Technical Report and Environmental Impact Statement (EIS) for the M-84 Reconstruction Project, the search identified no potential sites of environmental contamination within or near the project area.

There may be several potential sites of environmental contamination, not identified by a general DEQ database check, in which spent foundry sand from the automobile industry was used as base material for bridge construction. If spent foundry sand is encountered at any time during the project, as with any contaminated media (soil and groundwater), it must be handled and disposed of appropriately in accordance with state and federal regulations.

2.17 PERMITS

A permit under Part 31 (Floodplains) and Part 301 (Inland Lakes and Streams) of Public Act 451 of the 1994 Natural Resources and Environmental Protection Act (NREPA), is required for work to be conducted below the ordinary high water mark of Squaconning and Dutch creeks and at other stream/drain crossings within the project limits. A permit under Part 303 of Public Act 451 of NREPA, Wetland Protection will be needed for wetland impacts near the M-84 interchange. Permits may be required for work in county drains that intersect the highway at several points in both Bay and Saginaw counties. This project will also be evaluated for coastal zone consistency as part of the review process for the required MDEQ permits.

A permit under Sec. 10 and Sec. 404 from the Army Corps of Engineers (ACE) will also be required as the northbound Squaconning Creek structure is at the up-stream limit of ACE jurisdiction and represents a joint ACE/DEQ permitting activity. Coverage under the National Pollutant Discharge Elimination System (NPDES), which is administered by the MDEQ, is also required.

2.18 MAINTAINING TRAFFIC

During the reconstruction and widening of I-75, traffic will be maintained on both northbound and southbound I-75 pavements. MDOT has developed a plan to maintain a minimum of five lanes of traffic at all times. Three lanes of traffic will be maintained during peak travel times for one direction, while the opposite direction maintains two lanes of traffic. Movable barrier wall will be used in this situation. When constructing northbound I-75, all traffic will be maintained on the southbound I-75 pavement. While constructing southbound I-75, traffic will be maintained on the northbound I-75 pavement Median crossovers will be used to shift traffic while movable barrier wall separates the directional traffic and allows adjustment for peak travel conditions.

A component of the Maintaining Traffic Plan (MTP) will be the development and implementation of a Motorist Information Plan (MIP). The MIP will include electronic message signs along I-75 informing motorists that travel lanes are being reduced or switched over to the other side of the roadway.

2.19 MEASURES TO MINIMIZE IMPACTS DURING CONSTRUCTION

The goal of mitigation measures is to preserve, to the greatest extent possible, existing neighborhoods, land use, and resources, while improving transportation. Although some adverse impacts are unavoidable, MDOT through the project development, design, environmental, and construction processes, takes precautions to protect as many social and environmental systems as possible. Specific project mitigation items being considered at this time can be found in the Project Mitigation Summary "Green Sheet" located at the end of this section. The "Green Sheet" may be modified during the final design, right-of-way acquisition or construction phases of this project.

Construction activities which include the general mitigation measures listed below are those contained in the 2003 Michigan Standard Specifications for Construction. These measures include:

1. The contractor shall locate all active underground utilities prior to starting work, and shall conduct his operations in such a manner as to ensure that those utilities not requiring relocation will not be disturbed. Relocated utilities may be temporarily interrupted for short time periods.

2. Accelerated erosion and sedimentation caused by highway construction will be controlled before it enters a water body or leaves the highway right-of-way by the placement of temporary or permanent soil erosion and sedimentation control measures as discussed in *Section 2.11*. The design plans will describe the erosion and sedimentation controls and their locations.

3. All regulations of the MDEQ governing disposal of solid waste must be complied with. When surplus or unsuitable material is to be disposed of outside the right-of-way, the contractor shall obtain and file with MDOT written permission from the owner of the property on which the material is to be placed. If federal funds are used for this project, Executive Order 11990 states that no surplus or unsuitable material is to be permanently disposed of in any public or private wetland area, regardless of size. In addition, no material is to be temporarily disposed of in any wetland, watercourse or floodplain without prior approval (and permit) by the appropriate resource agencies and the Federal Highway Administration.

4. Disruption of traffic in the construction area will be minimized to the greatest extent possible. Although control of all construction-related inconveniences is not possible, motorist and pedestrian safety will be ensured by placing signs in all

construction areas. All lane closures, traffic shifts, short term detours, and changed travel patterns will be clearly marked. Access will be maintained to adjacent properties during construction to the extent possible.

5. Construction noise will be minimized by measures such as requiring construction equipment to have mufflers in good working order, that portable compressors meet federal noise-level standards for that equipment, and that all portable equipment be placed away from or shielded from sensitive noise receptors if at all possible. All local noise ordinances will be adhered to unless otherwise granted exception by the responsible municipality.

6. During the construction of the project, the contractor will be responsible for adequate dust-control measures so as not to cause detriment to the safety, health, welfare, or comfort of any person, or cause damage to any property, residence or business.

7. All bituminous and Portland cement concrete proportioning plants and crushers must meet the requirements for the rules of Part 55 of Act 451, Natural Resource and Environmental Protection. Any portable bituminous or concrete plant or crusher must meet the minimum 250 foot setback requirement from any residential, commercial, or public assembly property. The contractor may be required to apply for a permit-to-install or a general permit from the MDEQ. The permit process including any public comment period, if required, may take up to six months

Design plans will be reviewed by MDOT prior to contract letting in order to incorporate any additional social, economic, or environmental protection items. The active construction site will be reviewed to ensure that the mitigation measures proposed are carried out, and to determine if additional protection is required. More mitigation measures may be developed if additional impacts are identified. Specific mitigation items will be included on the design plans and permit applications.

The final mitigation package will be reviewed by MDOT representatives, in cooperation with concerned state, federal, and local agencies. Some changes in the early mitigation concepts discussed in this document may be required when design begins or when in-depth soil borings are taken and analyzed. These mitigation concepts will be implemented to the fullest extent possible. Where changes are necessary, they will be designed and field reviewed before permits are applied for and construction begins. Changes may also be necessary during the construction phase, but they will reflect the early mitigation intent.

Project Mitigation Summary (Green Sheet)
For the Preferred Alternative

Environmental Assessment

Proposed Reconstruction and Widening on I-75
From the I-675 Freeway Interchange (Northern Terminus)
To just south of the US-10/M-25 Interchange
In the Counties of Saginaw and Bay, Michigan

This Project Mitigation Summary "Green Sheet" contains project specific mitigation measures being considered at this time. An updated "Green Sheet" will be prepared and included in the request for a Finding of No Significant Impact (FONSI) for this project. These mitigation items may be modified during the final design, right-of-way acquisition, or construction phases of this project.

I. Social and Economic Environment

A. *Access to Residential and Commercial* - Access to adjacent properties will be maintained during construction. Following resurfacing of the rest area parking lot, parking spaces will be marked using Americans with Disabilities Act guidelines.

B. *Noise Impacts* - A noise wall was considered for the subdivision located east of I-75 and north of East Salzburg Road. The noise wall cost did not meet the reasonableness requirement of MDOT's Noise Policy and will not be constructed. However, additional vegetation will be evaluated during the design phase of this project.

II. Natural Environment

A. *Stream Crossings* - New structures will span the entire stream channel, be aligned with the stream, and be will be recessed at least six inches below the streambed elevation to allow for a natural bottom to be created. Disturbed stream channel areas will have streambed protection stone placed to stabilize them and provide spawning areas. Construction staging plans will be set up during the design of the proposed culvert replacement, culvert extensions, and at the two bridge widenings to address the need for uninterrupted water flow and fish movement.

B. *Wetlands* - This project will impact 0.49 acres of emergent wetlands which will be mitigated at a ratio of 1.5:1 for a total mitigation of 0.74 acres. The wetland mitigation will be done on site if possible or will be done at an approved Moment of Opportunity (MOO) site.

C. *Floodplains* – Minor amounts of floodplain fill may be required at several of the stream crossings to accommodate the new culverts, culvert extensions, and widened bridges. Culvert sizes will be reviewed (and increased if necessary) in the design phase following completion of the hydraulic and scour analysis to ensure that culverts are able to pass the 100 year storm event without increasing backwater elevations.

D. *Water Quality* - Best Management Practices (BMP's) will be used to treat storm water when designing the I-75 drainage systems. BMP's include routing road and bridge run through vegetated swales prior to discharge into project watercourses.

E. *Fisheries Resources* - No work will be allowed in project stream channels from March 1 through May 31 to protect spawning activities of native species. Work may occur during this time frame if done inside an enclosed cofferdam installed prior to the March 1 date. Stream flow will be maintained during construction except for short periods of time necessary to place new culvert sections.

F. *Wildlife Resources* - The Special Provision for Migratory Birds will be set up on this project to avoid impacts to nesting barn swallows at the Squaconning Creek and Kochville Drain bridges.

III. Hazardous/Contaminated Materials

A. *Foundry Sand* - If spent foundry sand or contaminated media (soil or groundwater) is encountered at any time during construction, it will be handled and disposed of appropriately in accordance with current state and federal regulations.

IV. Construction

A. *Maintaining Traffic* - Traffic on I-75 including the ramps will be maintained by part-width construction. All lane closures, traffic shifts, and changed travel patterns will be clearly marked. MDOT will coordinate with local officials to provide updated project information to assist all motorists including emergency vehicles, school buses, and public transit.

B. *Soil Erosion/Sedimentation Control* – Strict soil erosion and sedimentation controls will be set up and maintained during construction.

C. *Construction Permits* - Permits under Act 451, Parts 31, 301, and 303, are required from the MDEQ for this project. Coverage under the National Pollutant Discharge Elimination System (NPDES), which is administered by the MDEQ, is also required. A federal permit under Section 10 and Section 404 will be required from the U. S. Army Corps of Engineers (COE).

D. *Permit Time Restrictions* - No work will be done in project watercourses from March 1 through May 31 unless done within an enclosed cofferdam.

SECTION 3 - PUBLIC AND AGENCY INVOLVEMENT

3.1 PUBLIC INVOLVEMENT

A public information meeting on the proposed I-75 reconstruction and widening was held on January 9, 2007. The public meeting allowed the public and local agencies an opportunity to review and comment on the project. An opportunity for a public hearing will be offered to the public after the EA document has been printed and distributed. A copy of the EA document will be made available for review at MDOT's Bay Region and Bay City Transportation Service Center and local libraries.

3.2 LOCAL AGENCY COORDINATION AND PARTICIPATION

MDOT has worked closely with local units of governments including the Metropolitan Planning Organizations to ensure that the proposed improvements are included in the MPOs' 2006-2008 Transportation Improvement Program (TIP) for early preliminary engineering and in the MPOs' Long Range Plans for construction.

MDOT has coordinated with local, state, and federal agencies concerning the proposed improvements to the I-75 Corridor. MDOT sent out early coordination letters in November 2006. MDOT has received several responses to those early coordination letters. A copy of the early coordination letter and copies of the response letters are included in *Appendix A*.

MDOT will continue to coordinate with local agencies during subsequent phases (design and construction) of this project.

SECTION 4 - PROJECT COSTS

4.1 PROJECT COSTS

The estimated cost (2007) for constructing the proposed project is approximately $77.5 million dollars, which includes preliminary engineering, final design, construction engineering, roadway construction and bridge construction. The following Table (4) shows the cost for each of the segments which include road and bridge costs.

TABLE 4.1 – Project Costs

I-75 Segment	Road ($ millions)	Bridge ($ millions)	Total ($ millions)
North of Hotchkiss Road to south of US-10 (Road JN 84072)	$13.5	--	$13.5
From Squaconning Creek north to Hotchkiss Road (not programmed)	$5.0	$12.0	$17.0
From Saginaw/Bay County Line north to Squaconning Creek (Road JN 87508)	$19.0	$2.0	$21.0
From North Abutment of Zilwaukee Bridge to Saginaw/Bay County Line (not programmed)	$25.0	$1.0	$26.0
Total	$62.5	$15.0	$77.5

SECTION 5 - CONCLUSION

5.1 CONCLUSION

MDOT has reviewed this project for potential impacts on the human and natural environments. Based on the information in this Environmental Assessment, field reviews, and coordination with other agencies and the public, it is anticipated that this project will have no long-term significant negative impacts on the natural or human environment within the project area.

APPENDIX A

Responses to Early Coordination Letters

JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

KIRK T. STEUDLE
DIRECTOR

November 21, 2006

Agency Name
Street Address
City, State, Zip Code

Dear

The Michigan Department of Transportation (MDOT) in cooperation with the Federal Highway Administration (FHWA) is preparing an Environment Assessment (EA) for the proposed reconstruction and widening of the I-75 freeway from the northern terminus of the I-675 freeway interchange located in Saginaw County to just south of the US-10 interchange in Bay County. The project segment is approximately 6.8 miles in length and consists of a six lane freeway that crosses Squaconning Creek south of the M-84 interchange, Dutch Creek north of the M-84 interchange, and the Kochville Drain located near the I-675 interchange. There are structures over I-75 at Crane Road in Saginaw County and Amelith, Hotchkiss and Salzburg Roads in Bay County. In general the proposed project is to reconstruct the freeway and widen it from 6 to 8 lanes.

In 2000, MDOT developed an improvement plan for the I-75 freeway corridor in Genesee, Saginaw, Bay and Arenac Counties. The plan addressed such deficiencies as aging road and bridges, increased traffic volumes especially on weekends and holidays, available right-of-way, and drainage. The proposed improvements were recommended to be implemented in segments due to costs and available funding. Several segments of this plan have been constructed. MDOT is now ready to reconstruct and widen I-75 in northern Saginaw and southern Bay Counties.

Within the study area, MDOT is proposing the complete reconstruction and widening of I-75 from 3 lanes to 4 lanes in each direction. The widening will be in the median and will include a concrete barrier wall, storm sewer along with drainage and safety improvements. This includes the reconstruction and widening of the I-75 Bridge over the Kochville Drain (B02-1 and B02-2 of 73112) and bridge rehabilitation and widening of I-75 over Dutch Creek, and I-75 over Squaconning Creek (B01-1 and B01-2 of 09034). The median shoulder will be 10 feet, while the outside shoulder will be 12 feet. Design exceptions may be required for all of the structures not having adequate outside shoulder widths.

A Maintenance of Traffic Plan has been developed for this project due to the heavy seasonal tourism travel. MDOT proposes to construct median crossovers and maintain traffic on the southbound roadway while constructing northbound. Once the northbound is completed, the pattern will be reversed for southbound construction. A moveable barrier wall will be used to maintain 5 lanes of traffic. For peak travel volumes (weekends/holidays); 3 lanes will be maintained for northbound I-75 on Fridays with 2 lanes being maintained for southbound traffic. On Sundays, 3 lanes will be maintained for southbound I-75 with 2 lanes being maintained for northbound traffic.

The proposed improvements will be done within the existing right of way. Enclosed is a map that shows the proposed EA project limits and proposed type of work, and the construction schedule.

As part of the early coordination process, the project team is seeking input from interested agencies as well as the general public. We are asking for your agency to comment on this project for the Environmental Assessment as it relates to specific areas of concerns; acceptable methodologies; and mitigation and permitting requirements, which may be necessary for project implementation. If you need additional information or desire a joint field review, please contact David Wresinski at 517-373-2316.

Sincerely,

David E. Wresinski, Administrator
Project Planning Division
Bureau of Transportation Planning

Enclosures

Bay Metropolitan Transportation Authority
1510 N. Johnson St. • Bay City, Michigan 48708
Phone 989-894-2900 • Fax 989-894-2621
www.baymetro.com

A beautiful view...*of life* Bay City Michigan

November 29, 2006

David E. Wresinski, Administrator
Project Planning Division
Bureau of Transportation Planning
Michigan Department of Transportation
P.O. Box 30050
Lansing MI 48909

RE: Environmental Assessment/Widening of I-75/Bay County

Dear Sir:

I have reviewed your letter dated November 21, 2006, concerning the Environmental Assessment of the proposed widening of I-75 between I-675 and US-10. Thank you for providing us with this information. It is important, obviously, that our local public transit system keep up on road improvements and construction projects that might impact our operations.

From the information provided it appears that the proposed construction work on I-75 will have little or no impact on Bay Metro Transit's daily operations. We very seldom use that section of I-75 when transporting local fixed route or demand response passengers. And since the bridge reconstruction work involves only the spans over local creeks and drains along I-75 and not the overpasses, there should be no impact on our activities during the actual construction work. Therefore, the impact of this job on the local transit system should be negligible.

Thank you for considering our input on this important local project.

Sincerely,

M Stoner

Michael R. Stoner
General Manager

United States Department of Agriculture

NRCS

Helping People Help the Land

Natural Resources Conservation Service
3001 Coolidge Road, Suite 250
East Lansing, MI 48823
T (517) 324-5270/ F (517) 324-5171/ www.mi.nrcs.usda.gov

December 12, 2006

Mr. David E. Wresinski, Administrator
Project Planning Division
Bureau of Transportation Planning
P.O. Box 30050
Lansing, Michigan 48909

RE: Proposed Reconstruction and Widening of I-75 from I-675 Interchange in Saginaw County to Just South of the US-10 Interchange in Bay County

Dear Mr. Wresinski:

We have studied the proposal to reconstruct and widen I-75 within the extent described above. Many prime agricultural lands or map units that are currently farmed do occur along this stretch of freeway. As described in your letter, the increase in the number of lanes (widening) will occur on the median and within the existing right-of-way. This action will not convert prime or unique farmland.

Should your plans change to where conversion of prime and unique farmland will exceed one or more acres in total for this project, please complete form AD-1006 and submit it to the NRCS county office where the conversion is proposed to occur the addresses are:

Ms. Gracie Moreno
District Conservationist
NRCS Service Center
4044 South 3 Mile
Bay City, Michigan 48706-9206
Phone: 989-686-0430

Ms. Xiomara Eaves
District Conservationist
NRCS
178 N. Graham Rd.
Saginaw, Michigan 48609-9475
Phone: 989-781-4070

Thank you for this opportunity to comment on your proposal.

Sincerely,

Timothy D Cathcart, acting

JOHN A. BRICKER
State Conservationist

cc:
Xiomara Eaves, District Conservationist, NRCS, Saginaw, MI
Gracie Moreno, District Conservationist, NRCS, Bay City, MI

MICHIGAN DEPARTMENT OF STATE
Candice S. Miller, Secretary of State

Lansing, Michigan 48918-0001

STATE HISTORIC PRESERVATION OFFICE
Michigan Historical Center
717 West Allegan Street
Lansing, Michigan 48918-1800

December 21, 1995

MARGARET BARONDESS STAFF ARCHAEOLOGIST
ENVIRONMENTAL SECTION
BUREAU OF TRANSPORTATION PLANNING
DEPARTMENT OF TRANSPORTATION
PO BOX 30050
LANSING MI 48909

RE: ER-910266 M-84 reconstruction, Bay and Saginaw Counties

Dear Ms. Barondess:

Under the authority of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited project at the location noted above. Based on the information provided for our review it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties exist within the area of potential effects for the project.

Please maintain a copy of this letter with your environmental review record for this project. If the scope of work changes in any way, or if artifacts or bones are discovered, please contact this office immediately. This letter evidences your compliance with 36 CFR 800.4, "Identifying Historic Properties," and the fulfillment of your responsibility to notify this office under 36 CFR 800.4(d), "When no historic properties found."

If you have any questions, please contact Kristine Wilson, Environmental Review Coordinator, at (517) 335-2721. Thank you for this opportunity to review and comment.

Sincerely,

John R. Halsey for

Kathryn B. Eckert
State Historic Preservation Officer

KBE:LRA:em

United States Department of the Interior

FISH AND WILDLIFE SERVICE
East Lansing Field Office (ES)
2651 Coolidge Road, Suite 101
East Lansing, Michigan 48823-6316

IN REPLY REFER TO:

December 19, 2006

Mr. David Wresinski, Administrator
Michigan Department of Transportation
P.O. Box 30050
Lansing, Michigan 48909

Re: Request for Early Coordination Comments for the Environmental Assessment of the Proposed I-75 Widening Project, Bay and Saginaw Counties, Michigan.

Dear Mr. Wresinski:

We are responding to your November 28, 2006 request for early coordination comments regarding the preparation of an Environmental Assessment (EA) for the proposed I-75 project in Bay and Saginaw Counties, Michigan. You have indicated the Michigan Department of Transportation (MDOT) in cooperation with the Federal Highway Administration is preparing an EA for the proposed reconstruction and widening of the I-75 freeway from the northern terminus of the I-675 freeway interchange located in Saginaw County to just south of the US-10 interchange in Bay County. The project segment is approximately 6.8 miles in length and consists of a six lane freeway that crosses Squaconning Creek, Dutch Creek and the Kochville Drain. These comments are prepared under the authority of the Fish and Wildlife Coordination Act and are consistent with section 7 of the Endangered Species Act (Act) of 1973, as amended.

Endangered Species Act Comments

Information in our files does not indicate the presence of any federally endangered, threatened, or proposed species, or designated or proposed critical habitat, in the immediate vicinity of the current airport. There are, however, three federally listed species known to Bay and Saginaw Counties. These include the Indiana bat (*Myotis sodalis*), bald eagle, (*Haliaeetus leucocephalus*), and eastern prairie fringed orchid (*Platanthera leucophaea*). The candidate species, eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) is also known to occur in Saginaw County. Should activities be planned in areas which may provide potential habitat for these species, we suggest that a survey of the proposed project site be conducted to determine if the species is present. If the best available information indicates that listed species are present within the action area of the proposed project, a biological assessment should be prepared. Your biological assessment should determine if there may be effects, positive or negative, to listed species.